

DRAFT

Formatted: Left: 1.13", Right: 0.88", Top: 0.87", Top: (No border), Bottom: (No border), Left: (No border), Right: (No border)

Procedures, Application and Agreement

Formatted: Font: 26 pt

for the

Interconnection of Small Generators

Deleted: Connection

Formatted: Font: 26 pt

Less Than 100 KW

to the

Ameren Electric Distribution System

in Illinois

Formatted: Centered

Procedures

Formatted: Font: 26 pt

Introduction

The minimum technical requirements for safe and reliable parallel operation of Customer-owned electrical generating facilities with the AMEREN electric distribution system ("Ameren system") are set forth below. These requirements will serve as a guide for AMEREN and Customer engineering when planning such an installation; however, it is recognized that each installation may have specific requirements other than those set forth herein as a result of each installation's unique nature.

1. General Technical Requirements

A. Protection

(1) Customer shall install protective devices capable of detecting conditions on both the Customer system and the Ameren system. These devices will separate Customer's system from the Ameren system either directly or through an auxiliary device such as a circuit breaker. The separating device must be capable of interrupting the available fault current. The detection sensitivity and operating speed of these devices must be compatible with protective devices on the Ameren system.

Deleted: fault

Deleted: his

(2) The Customer shall install equipment designed to automatically separate the Customer system from the Ameren system upon loss of the normal Ameren supply. This equipment is required to be tested on a yearly basis.

Deleted: his

(3) The Customer is responsible for protecting Customer-owned equipment in such a manner that faults or other disturbances on the Ameren system or on Customer's system do not cause damage to the Customer equipment.

Deleted: his

(4) Customer shall furnish information to Ameren regarding the Customer's proposed generation equipment and protective devices prior to parallel operation. Ameren will check the adequacy of this proposed equipment and its compatibility with protective devices on the Ameren system and will either approve as submitted or specify additional equipment which will be required in order to begin parallel operation with the Ameren system.

Deleted: his

(5) All protective relay settings that would affect any Ameren system relay settings will be specified by Ameren. These relays will be initially calibrated by Ameren to assure proper operation.

(6) A manual visible disconnect switch must be provided which is under the exclusive jurisdictional control of the Ameren dispatcher. This manual switch must have the capability to be locked out of service by an Ameren-authorized employee.

Deleted: switchman

(7) The above statements are the basic minimum protection requirements that would be associated with parallel generation. Additional requirements and/or equipment will depend on an in-depth study of each proposed interconnection. All costs of the study shall be paid by the Customer-Generator. These study costs may be waived in accordance with Ameren's commitment under ICC Docket 02-0428.

Deleted: would

Deleted: connection

B. Operation

(1) Under certain conditions the intertie breaker (if one is required) must be operated by Customer in order for Ameren to operate the manual disconnect switch. Ameren may request this action for any of the following reasons:

a. System emergency.

b. Inspection of Customer's generating equipment or protective equipment reveals an unsafe condition.

DRAFT

- c. Customer's generating equipment interferes with other customers or with the operation of the Ameren system.
- d. An outage is scheduled on the Ameren supply circuit or feeder.

(2) Customer shall be solely responsible for properly synchronizing the Customer generating equipment with the Ameren frequency and voltage. This includes resynchronizing the Customer generator(s) after Ameren system outages or disturbances.

Deleted: his

Deleted: his

C. Quality of Service

(1) The interconnection of Customer-Generator's generating equipment with the Ameren system shall not cause any reduction in the quality of service being provided to other customers or cause any undesirable effect on any Ameren facilities. Such interconnection shall be pursuant to the latest revision of IEEE 519, 929 and 1547 and UL 1741.

(2) The power factor of Customer-Generator's load with the Customer's generating equipment connected shall not be less than that specified by retail tariff for the Customer applicable customer class.

Deleted: his

Deleted: his

D. Metering

The revenue metering for Net Metering shall include two series connected watthour meters with detents. One meter shall be connected to measure energy supply to the Customer-Generator from Ameren during the billing period; the other meter shall measure Customer-Generator generated energy from the Customer-Generator to Ameren during the billing period. The meter detents prevent operation of either meter in the reverse direction. The Customer-Generator is responsible for additional metering costs for the metering equipment required for metering the energy from the Customer-Generator to Ameren. In order to properly measure the net energy from the Customer-Generator to Ameren, meters capable of measuring 15 minute interval usage may be required.

E. Other Requirements

(1) All Customer-Generator installations shall adhere to any applicable requirements of the National Electrical Safety Code, the National Electric Code, applicable NEMA codes, OSHA, UL, and Ameren's Electric Service Rules as set forth in published tariffs.

(2) Customer-Generator will bear all interconnection costs of parallel operation over and above the normal cost to serve the Customer load.

Deleted: his

Formatted: Font: 26 pt

Formatted: Centered, Line spacing: 1.5 lines, Don't adjust space between Latin and Asian text, Don't adjust space between Asian text and numbers

Application and Agreement Process

1. Initial Submittal of Customer-Generator System Plans and Specifications

By submitting the attached Application/Agreement, you, the Customer-Generator, are indicating your interest in applying for interconnection to the Ameren electrical distribution system ("Ameren system"). Prior to beginning this process, you should first contact Ameren and ask for information related to interconnection of parallel generation equipment to Ameren's system and you should understand this information before proceeding with this Application. To apply for interconnection to the Ameren system, you must submit for approval the completed Sections A, B, C, and D of the Application/Agreement, along with plans and specifications describing the net metering, parallel generation, and interconnection facilities of the proposed generating facility (hereinafter collectively referred to as the "Customer-Generator System") and submit them to Ameren at:

One Ameren Plaza
1901 Chouteau Avenue
St. Louis MO 63103
Att: Manager Regulatory Development

You will be provided with an approval or denial of Sections A, B, C, and D of the Application/Agreement and the submitted plans and specifications within ninety (90) days of receipt by Ameren. If sections A, B, C, and D of the Application/Agreement and/or the submitted plans and specifications are denied, you will be provided with the reason(s) for the denial. If Sections A, B, C, and D of the Application/Agreement and the submitted plans and specifications are approved and signed by both you and Ameren, the Application/Agreement shall become a binding contract and shall govern your relationship with Ameren.

2. Following Approval of Customer-Generator System Plans and Specifications

After receiving approval of sections A, B, C, and D of the Application/Agreement, it will be necessary to construct the Customer-Generator System in compliance with the approved plans and specifications that were provided with the Application/Agreement. Upon completion of construction of the Customer-Generator system, you must complete Sections E and F of the Application/Agreement, and forward to Ameren, along with payment of any applicable fees, at:

One Ameren Plaza
1901 Chouteau Avenue
St. Louis MO 63103
Att: Manager Regulatory Development

3. Final Approval of Customer-Generator System Interconnection

If electric service already exists to the premises, within ninety (90) days of receipt of the Application/Agreement by Ameren, unless you and Ameren agree to a later date, Ameren will review Sections E and F and confirm payment of the applicable fees and, if accepted, Ameren will complete the utility portion of section G and return the fully completed Application/Agreement to you. Upon your receipt of the completed Application/Agreement, you will be permitted to interconnect the Customer-Generator System to the Ameren system.

Formatted: Indent: First line: 0.5"

Deleted: If you

Deleted: ed

Deleted: 's

Deleted: ,

Deleted: If you wish t

Deleted: 's

Deleted: electrical

Deleted: please

Deleted: s

Deleted: and attach the

Deleted: 's

Deleted: is

Deleted: is

Deleted: is

Deleted: is

Deleted: is

Deleted: is

Deleted: it

Formatted: Left

Deleted: For Customers Who Have Received

Deleted: Customer-Generator

Formatted: Left, Indent: First line: 0.5"

Deleted: ;

Formatted: Font: 10 pt

Deleted: your

Deleted: described in

Formatted: Font: 10 pt

Deleted: ,

Deleted: s

Deleted:

Deleted: is

Deleted: this Application

DRAFT

If electric service does not exist to the premises, Ameren will permit, after review and approval of Sections E and F and confirm payment of the applicable fees, interconnection of the Customer-Generator System to the Ameren, system no later than ninety (90) days after service is established to the premises, unless you and Ameren agree to a later date.

Deleted: 's electrical

Deleted: fifteen (15)

Deleted: the Customer-Generator

4. Customers-Generators Assuming Ownership or Operational Control of an Existing Customer-Generator System

If you are assuming ownership or operational control of an existing approved Customer-Generator System and no changes are being made, or are planned to be made, to the existing Customer-Generator System, you must submit for approval the completed Sections A, D and F of the Application/Agreement and forward to Ameren at:

Formatted: Left

Deleted: Who Are

Deleted: ;

Formatted: Left, Indent: First line: 0.5"

Formatted: Left

Formatted: Font: Not Bold, No underline

Formatted: Left

Formatted: Font: Not Bold, No underline

Formatted: Font: Not Bold, No underline

Formatted: Font: Not Bold, No underline

Formatted: Font: Not Bold, No underline

Formatted: Font: Not Bold, No underline

Formatted: Font: Not Bold, No underline

Deleted: s

Deleted: is

Formatted: Centered

Formatted: Left

Deleted: shall

Deleted: e such,

Deleted: fifteen (15)

Deleted: if the new Customer-Generator has satisfactorily completed Application/Agreement, and no changes are being proposed to the existing Customer-Generator System

Formatted: Font: 26 pt

Formatted: Centered

One Ameren Plaza
1901 Chouteau Avenue
St. Louis MO 63103
Att: Manager Regulatory Development

Ameren will review the new Application/Agreement and if the new Customer-Generator has satisfactorily completed Sections A, D and F of the Application/Agreement, and no changes are being proposed to the existing Customer-Generator System, you will be provided with an approval within sixty (60) days of receipt by Ameren as described under Section D.6, below. There are no fees or charges for the Customer-Generator who is assuming ownership or operational control of an existing Customer-Generator System if no modifications are being proposed to that Customer-Generator System.

DRAFT

Application/Agreement

A. Customer-Generator's Information

Name: _____

Mailing Address: _____

City: _____ State: _____ Zip Code: _____

Service/Street Address (if different from above): _____

City: _____ State: _____ Zip Code: _____

Daytime Phone: _____ Fax: _____ E-Mail: _____

Emergency Contact Phone: _____

Ameren Account No. (from Utility Bill): _____

B. Customer-Generator's System Information

Manufacturer Name Plate (if applicable) AC Power Rating: ____ kW Voltage: ____ Volts

System Type: Solar __ Wind __ Biomass __ Fuel Cell __ Other (describe) _____

Service/Street Address: _____

Inverter/Interconnection Equipment Manufacturer: _____

Inverter/Interconnection Equipment Model No.: _____

Are Required System Plans & Specifications Attached? Yes __ No __

Inverter/Interconnection Equipment Location (describe): _____

Outdoor Manual/Utility Accessible & Lockable Disconnect Switch Location (describe):

Existing Electrical Service Capacity: _____ Amperes Voltage: _____ Volts

Service Character: Single Phase __ Three Phase __

C. Installation Information/Hardware and Installation Compliance

Person or Company Installing: _____

Deleted: Ameren

Contractor's License No. (if applicable): _____

Approximate Installation Date: _____

DRAFT

Mailing Address: _____

City: _____ State: _____ Zip Code: _____

Daytime Phone: _____ Fax: _____ E-Mail: _____

Person or Agency Who Will Inspect/Certify Installation: _____

~~You, the Customer-Generator, affirmatively states that the proposed~~ Customer-Generator System hardware complies with all applicable National Electrical Safety Code (NESC), National Electric Code (NEC), Institute of Electrical and Electronics Engineers (IEEE) and Underwriters Laboratories (UL) requirements for electrical equipment and their installation. As applicable to ~~the Customer-Generator~~ System type, these requirements include, but are not limited to, UL 1741 and IEEE 929-2000. ~~You, the Customer-Generator, affirmatively states that the~~ proposed installation complies with all applicable local electrical codes and all reasonable safety requirements of Ameren, ~~and that the~~ proposed ~~Customer-Generator~~ System has a lockable, visible disconnect device, accessible at all times to Ameren personnel. The ~~Customer-Generator~~ System is only required to include one lockable, visible disconnect device, accessible to Ameren. If the interconnection equipment is equipped with a visible, lockable, and accessible disconnect, no redundant device is needed to meet this requirement.

Deleted: T

Deleted: 's proposed

Formatted: Indent: First line: 0.5"

Deleted: T

Deleted: .

Deleted: The

~~You, the~~ Customer-Generator, ~~affirmatively states that the~~ proposed ~~Customer-Generator~~ System has functioning controls to prevent voltage flicker, DC injection, overvoltage, undervoltage, overfrequency, underfrequency, and overcurrent, and ~~provides~~ for System synchronization to ~~the Ameren, system and that the~~ proposed ~~Customer-Generator~~ System does have an anti-islanding function that prevents the ~~Customer-Generator's~~ generator from continuing to supply power when ~~the Ameren, system~~ is not energized or operating normally. ~~You, the Customer-Generator, affirmatively states that, if the proposed~~ ~~Customer-Generator~~ System is designed to provide uninterruptible power to critical loads, either through energy storage or back-up generation, the proposed ~~Customer-Generator~~ System includes a parallel blocking scheme for this backup source that prevents any backflow of power to ~~the Ameren, system when the Ameren, system~~ is not energized or not operating normally.

Deleted: T

Deleted: 's

Formatted: Indent: First line: 0.5"

Deleted: to

Deleted: 's electrical

Deleted: . The

Deleted: 's electric

Deleted: I

Deleted: 's electrical

Deleted: electrical

By: _____
(company name of Customer-Generator)

Signed: _____
(Customer-Generator)

Name: _____
(Print)

Date: _____

D. Additional Terms and Conditions

In addition to abiding by Ameren's other applicable rules and regulations, you, the Customer-Generator, understands and agrees to the following specific terms and conditions:

Formatted: Indent: First line: 0.5"

1) Operation/Disconnection

If it appears to Ameren, at any time, in the reasonable exercise of its judgment, that operation of the Customer-Generator System is adversely affecting safety, power quality or reliability of the Ameren system, Ameren may immediately disconnect and lock-out the Customer-Generator System from the Ameren system. The Customer-Generator shall permit Ameren's employees and inspectors reasonable access to inspect, test, and examine the Customer-Generator System.

Formatted: Indent: First line: 0.5"

Deleted: 's

Deleted: 's electrical

Deleted: 's

Deleted: 's electrical

Deleted: 's

Formatted: Indent: First line: 0.5"

2) Liability

The Customer-Generator agrees to carry no less than \$100,000 of liability insurance that provides for coverage of all risk of liability for personal injuries (including death) and damage to property arising out of or caused by the operation of the Customer-Generator System. Insurance may be in the form of an existing policy or an endorsement on an existing policy. Customer-Generator shall also indemnify Ameren against any and all claims arising from any action or liability caused by the Customer-Generator.

Deleted: 's

3) Interconnection Costs

The Customer-Generator shall, at the Customer-Generator's cost and expense, install, operate, maintain, repair, and inspect, and shall be fully responsible for the Customer-Generator System. The Customer-Generator further agrees to pay or reimburse to Ameren all of Ameren's Interconnection Costs. Interconnection Costs are the reasonable costs incurred by Ameren for: (1) additional tests or analyses of the effects of the operation of the Customer-Generator's System on Ameren's local distribution system, (2) additional metering, and (3) any necessary controls. These Interconnection Costs must be related to the installation of the physical facilities necessary to permit interconnected operation of the Customer-Generator System with the Ameren system and shall only include those costs, or corresponding costs, which would not have been incurred by Ameren in providing service to the Customer-Generator solely as a consumer of electric energy from Ameren pursuant to Ameren's standard cost of service policies in effect at the time the Customer-Generator System is first interconnected with the Ameren system.

Formatted: Indent: First line: 0.5"

Deleted: 's

Deleted: 's

Deleted: 's

Deleted: 's

Deleted: 's

Deleted: Upon request, Ameren shall provide the Customer-Generator with a not-to-exceed costs statement for interconnection with Ameren based upon the plans and specifications provided by the Customer-Generator to Ameren.

4) Energy Pricing and Billing

The value of the electric energy delivered to the Customer-Generator shall be billed in accordance with Ameren's applicable tariffs. The value of the electric energy delivered by the Customer-Generator to Ameren shall be credited in accordance with Ameren's applicable tariffs.

Deleted: Section 386.887 RSMo Supp. 2002 sets forth the valuation and billing of electric energy provided by Ameren to the Customer-Generator and to Ameren from Customer-Generator.

Deleted: Schedule 5 – Schedule of Rates for Electric Service, Service Classification with the application of the Time-of-Day billing provisions.

Deleted: Ameren's Schedule 1 – Electric Power Purchases, Section A.II.2

Formatted: Indent: First line: 0.5"

Deleted: 's

Deleted: 's

5) Terms and Termination Rights

This Agreement becomes effective when signed by both the Customer-Generator and Ameren, and shall continue in effect until terminated. After fulfillment of any applicable initial tariff or rate schedule term, the Customer-Generator may terminate this Agreement at any time by giving Ameren at least thirty (30) days prior written notice. In such event, the Customer-Generator shall, no later than the date of termination of Agreement, completely disconnect the Customer-Generator System from parallel operation with the Ameren system. Either party may terminate this Agreement by giving the other party at least thirty (30) days prior written notice that the other party is in default of any of the terms and conditions of this Agreement, so long as the notice specifies the basis for termination, and there is an opportunity to cure the default. This Agreement may also be terminated at any time by mutual agreement of the Customer-Generator and Ameren. This agreement may also be terminated, by approval of the Illinois Commerce Commission, if there is a change in statute that is determined to be applicable to this contract and necessitates its termination.

6) Transfer of Ownership

If operational control of the Customer-Generator System transfers to any other party than the Customer-Generator, a new Application/Agreement must be completed by the person or persons taking over operational control of the existing Customer-Generator System. Ameren shall be notified no less than thirty (30) days before the Customer-Generator anticipates transfer of operational control of the Customer-Generator System. The person or persons taking over operational control of Customer-Generator System must file a new Application/Agreement, and must receive authorization from Ameren, before the existing Customer-Generator System can remain interconnected with the Ameren system. The new Application/Agreement will only need to be completed to the extent necessary for Ameren to affirm that the new person or persons having operational control of the existing Customer-Generator System completely understands the provisions of this Application/Agreement and agrees to them. If no changes are being made to the Customer-Generator System, completing sections A, D and F of this Application/Agreement will satisfy this requirement. If no changes are being proposed to the Customer-Generator System, Ameren will assess no charges or fees for this transfer. Ameren will review the new Application/Agreement and shall approve such, within sixty (60) days if the new Customer-Generator has satisfactorily completed the Application/Agreement, and no changes are being proposed to the existing Customer-Generator System. Ameren will then complete Section G and forward a copy of the completed Application/Agreement back to the new Customer-Generator, thereby notifying the new Customer-Generator that the new Customer-Generator is authorized to operate the existing Customer-Generator System in parallel with the Ameren system. If any changes are planned to be made to the existing Customer-Generator System that in any way may degrade or significantly alter the Customer-Generator System output characteristics, then the Customer-Generator shall submit to Ameren a new Application/Agreement for the entire Customer-Generator System and all portions of the Application/Agreement must be completed as provided herein.

Deleted: 's

Formatted: Indent: First line: 0.5"

Deleted: 's

Deleted: 's

Deleted: 's electrical

Deleted: 's

Deleted: fifteen (15)

Deleted: s

Deleted: 's electrical

Deleted: that System's

7) Dispute Resolution

If any disagreements between the Customer-Generator and Ameren arise that cannot be resolved through normal negotiations between them, the disagreements may be brought to the Illinois Commerce Commission by either party, through an informal or formal complaint. Procedures for filing and processing these complaints are described in the Illinois Regulations under Title 83, Part 200. These complaint procedures apply only to retail electric power suppliers to the extent that they are regulated by the Illinois Commerce Commission.

Formatted: Indent: First line: 0.5"

Deleted: Missouri Public Service

Deleted: 4 CSR 240-2.070

Deleted: described in 4 CSR 240-2.070

Deleted: Missouri Public Service

8) Testing Requirement

The Customer-Generator must, at least once every year, conduct a test to confirm that the Customer-Generator's net metering unit automatically ceases to energize the output (interconnection equipment output voltage goes to zero) within two (2) seconds of being disconnected from the Ameren system. Disconnecting the net metering unit from the Ameren system at the visible disconnect switch and measuring the time required for the unit to cease to energize the output shall satisfy this test. The Customer-Generator shall maintain a record of the results of these tests and, upon request by Ameren, shall provide a copy of the test results to Ameren. If the Customer-Generator is unable to provide a copy of the test results upon request, Ameren shall notify the Customer-Generator by mail that Customer-Generator has thirty (30) days from the date the Customer-Generator receives the request to provide to Ameren, the results of a test. If the Customer-Generator's equipment ever fails this test, the Customer-Generator shall immediately disconnect the Customer-Generator System from the Ameren system. If the Customer-Generator does not provide results of a test to Ameren within thirty (30) days of receiving a request from Ameren or the results of the test provided to Ameren show that the Customer-Generator's net metering unit is not functioning correctly, Ameren may immediately disconnect the Customer-Generator System from the Ameren system. The Customer-Generator System shall not be reconnected to the Ameren system by the Customer-Generator until the Customer-Generator System is repaired and operating in a normal and safe manner.

Formatted: Indent: First line: 0.5"

Deleted: 's electrical

Deleted: 's electrical

Deleted: 's

Deleted: 's

Deleted: 's

Deleted: 's

Deleted: 's

Deleted: 's electrical

Deleted: customer- generator

Deleted: 's

Formatted: Indent: First line: 0.5"

DRAFT

I, the Customer-Generator, have read, understand, and accept the provisions of Section D, subsections 1 through 8 of this Application/Agreement.

By: _____
(company name of Customer-Generator)

Signed: _____
(Customer-Generator)

Name: _____
(Print)

Date: _____

✖ ----- Deleted: ¶ Formatted: Font: 10 pt

To be completed by Ameren: ----- Formatted: Font: Bold, Underline
▲ ----- Formatted: Normal
----- Formatted: Font: CG Times (WN)
Sections A, B, C and D of this Application:

_____ are approved

_____ are NOT approved (you will be provided with the reason(s) for the denial under separate cover)

by Ameren on this _____ day of _____ (month), _____ (year).

By: Ameren Services Company

Signed: _____
(Ameren Representative)

Name: _____
(Print)

Date: _____

DRAFT

E. Electrical Inspection

The Customer-Generator System referenced above satisfies all requirements noted in Section C.

Inspector Name (print): _____

Inspector Certification:

I am a Licensed Engineer in Illinois ____

or

I am a Licensed Electrician in Illinois ____ License No. _____

Formatted: Indent: Left: 0.5", First line: 0.5"

Formatted: Indent: Left: 1.5"

By: _____
(company name of Electrical Inspector)

Signed: _____
(Inspector)

Name: _____
(Print)

Date: _____

F. Customer-Generator Acknowledgement

I am aware of the Customer-Generator System installed on my premises and I have been given warranty information and/or an operational manual for that system. Also, I have been provided with a copy of Ameren's parallel generation tariff or rate schedule (as applicable) and interconnection requirements. I am familiar with the operation of the Customer-Generator System.

Formatted: Left

I agree to abide by the terms of this Application/Agreement and I agree to operate and maintain the Customer-Generator System in accordance with the manufacturer's recommended practices as well as Ameren's interconnection standards. If, at any time and for any reason, I believe that the Customer-Generator System is operating in an unusual manner that may result in any disturbances on the Ameren system, I shall disconnect the Customer-Generator System and not reconnect it to the Ameren system until the Customer-Generator System is operating normally after repair or inspection. Further, I agree to notify Ameren no less than thirty (30) days prior to modification of the components or design of the Customer-Generator System that in any way may degrade or significantly alter that System's output characteristics. I acknowledge that any such modifications will require submission of a new Application/Agreement to Ameren.

I agree not to operate the Customer-Generator System in parallel with the Ameren system until this Application/Agreement has been approved by Ameren.

By: _____
(company name of Customer-Generator)

Signed: _____
(Customer-Generator)

Name: _____
(Print)

Date: _____

DRAFT

G. Application Approval (completed by Ameren)

Ameren does not, by approval of this Application/Agreement, assume any responsibility or liability for damage to property or physical injury to persons due to malfunction of the Customer-Generator's System or the Customer-Generator's negligence.

This Application is approved by Ameren on this ____ day of _____ (month), _____ (year).

By: Ameren Services Company

Signed: _____
(Ameren Representative)

Name: _____
(Print)

Date: _____